

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 9

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BARRY J. MENICH,
JAMES P. ALDRICH, and SAMUEL D. FERNANDEZ

Appeal No. 2000-0326
Application No. 08/644,465

ON BRIEF

Before KRASS, DIXON, and BARRY, *Administrative Patent Judges*.
BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

The examiner rejected the appellants' claims 1-16. They appeal therefrom under 35 U.S.C. § 134(a). We reverse.

BACKGROUND

The invention at issue in this appeal relates to handoff between spread-spectrum and non-spread-spectrum communication systems. In a Code-Division, Multiple-Access ("CDMA") spread-spectrum communication system, base stations service a remote

unit, i.e., a cellular subscriber. When the subscriber moves to the periphery of the coverage area of its serving base station, an increase in path losses between the serving base station and the subscriber creates a situation in which an adjacent base station can better serve the subscriber. Consequently, service of the subscriber is handed off to the adjacent station.

Service must sometimes be handed off between a CDMA base station and a base station utilizing a communication system protocol that is not spread spectrum, e.g., the Advanced Mobile Phone Service ("AMPS") protocol. Heretofore, service to a subscriber was prematurely handed off to the AMPS base station, thereby squandering the benefit of spread-spectrum services.

In contrast, the appellants determine when to hand off service from a CDMA base station to an AMPS base station by comparing a subscriber's phase shift measurement to a threshold and determining a reference CDMA base station from an active set of CDMA base stations. Next, corrected phase

shifts are calculated for each CDMA base station in the active set. Service unit is handed off to an AMPS base station underlying the CDMA coverage area having the smallest corrected phase shift. Waiting until a threshold event is received by the subscriber to hand off service allows the subscriber to travel farther in the CDMA coverage area before being handed off to the AMPS base station.

Claim 1, which is representative for present purposes, follows:

1. A method for performing handoff in a spread-spectrum communication system, the method comprising the steps of:

measuring a time between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit to produce a measured phase shift;

comparing the measured phase shift to a threshold to produce a comparison;

correcting the measured phase shift to produce a corrected phase shift, wherein the step of correcting comprises adjusting the measured phase shift based on a time between a second base station's transmitted signal and a corresponding signal received at the second base station; and

handing off the remote unit based on the corrected phase shift and the comparison.

The prior art applied by the examiner in rejecting the claims follows:

Tarallo et al. ("Tarallo")	5,054,035	Oct. 1,
1991		

Menich et al. ("Menich")	5,313,489	May
17, 1994.		

Claim 7 stands rejected under 35 U.S.C. § 102(b) as anticipated by Tarallo. Claims 1-6 and 8-16 stand rejected under 35 U.S.C. § 103(a) as obvious over Tarallo in view of Menich.

OPINION

After considering the record, we are persuaded that the examiner erred in rejecting claims 1-16. Accordingly, we reverse.

Rather than reiterate the positions of the examiner or appellants *in toto*, we address their main point of contention. The examiner asserts, "Tarallo et al. recites . . . monitoring the received signal transmitted from the remote station and comparing the received signal with a threshold in order to

determine a comparison which is defined as a quality measure (which reads determining [sic] the distance between base station received station) which may be used for hand-off (See abstract, fig.2 and 3 and col.2, line 63 to col.3, line 16)." (Final Rejection at 3.) The appellants argue, "Tarallo et al. and Menich et al. (alone or in combination) fail to teach or otherwise suggest handoff based on a phase shift, where the phase shift is based on a time between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit. . . ." (Appeal Br. at 7-8.)

In deciding anticipation, "the first inquiry must be into exactly what the claims define." *In re Wilder*, 429 F.2d 447, 450, 166 USPQ 545, 548 (CCPA 1970). Similarly, in deciding obviousness, "[a]nalysis begins with a key legal question -- what is the invention *claimed*?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987).

Here, independent claim 1 specifies in pertinent part the following limitations: "measuring a time between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit to produce a measured phase shift; comparing the measured phase shift to a threshold to produce a comparison. . . ." Similarly, independent claim 7 specifies in pertinent part the following limitations: "measuring a time, between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit to produce a measured phase shift; comparing the phase shift to a threshold to produce a comparison. . . ." Also similarly, independent claim 11 specifies in pertinent part the following limitations: "measuring a plurality of times between the plurality of base station's transmitted signals and corresponding received signals transmitted from a remote unit to produce a plurality of phase shift measurements; . . . comparing the plurality of phase shift measurements to a plurality of thresholds to produce a comparison. . . ." Further similarly, independent claim 14 specifies in pertinent part the following limitations: "means for measuring an uncorrected phase shift of a remote unit to produce a measured

phase shift, wherein the uncorrected phase shift is based on a time between a base station's transmitted signal and a corresponding signal received at the base station; means, coupled to means for measuring, for comparing the measured phase shift to a threshold to produce a comparison. . . ."

Accordingly, independent claims 1, 7, 11, and 14 require *inter alia* determining a phase shift by measuring a time between a base station's transmission of a signal and the base station's reception of a corresponding signal from a remote unit and comparing the determined phase shift to a threshold.

Starting with the anticipation rejection of claim 7, "having ascertained exactly what subject matter is being claimed, the next inquiry must be into whether such subject matter is novel." *Wilder*, 429 F.2d at 450, 166 USPQ at 548. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (citing *Structural Rubber Prods. Co. v. Park*

Rubber Co., 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983)).

"For each rejection under 35 U.S.C. 102 or 103 ..., the examiner shall compare at least one of the rejected claims feature by feature with the prior art relied on in the rejection. The comparison shall align the **language of the claim** side-by-side with a reference to the specific page, line number, drawing reference number, and quotation from the prior art. . . ." M.P.E.P. § 1208 (8th ed., Aug. 2001)(emphasis added).

Here, the examiner fails to show, or even allege, that Tarallo determines a phase shift, let alone measures a time between base station's transmission of a signal and the base station's reception of a corresponding signal from a remote unit, and compares the phase shift to a threshold. Rather than comparing the language of the claims with the reference, he merely asserts that Tarallo determines a quality measure by

comparing a signal received from a remote station with a threshold as aforementioned. We will not "resort to speculation," *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), as to where the claimed limitations might be found in Tarallo.

Because there is no showing that Tarallo determines a phase shift by measuring a time between base station's transmission of a signal and the base station's reception of a corresponding signal from a remote unit and compares the determined phase shift to a threshold, we are not persuaded that the reference discloses the limitations of "measuring a time, between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit to produce a measured phase shift; comparing the phase shift to a threshold to produce a comparison. . . ." Therefore, we reverse the rejection of claim 7.

Turning to the obviousness rejection of claims 1-6 and 8-16, the next inquiry is whether the subject matter is obvious. "In rejecting claims under 35 U.S.C. Section 103, the examiner

bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993)(citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). "'A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.'" *In re Bell*, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, the examiner fails to show that Menich, the secondary reference, cures the defect of Tarallo. Menich discloses that "[w]hen mobile station 125 moves beyond the boundary of DS CDMA cell 100 into an AMPS cell, for example cell 106, DS CDMA base-station 130 detects the need for handoff by employing the results of the pilot measurements supplied by mobile station 125." Col. 4, ll. 24-29. The examiner does not show that the reference's pilot measurements represent a phase shift, let alone a measurement of a time

between base station's transmission of a signal and the base station's reception of a corresponding signal from a remote unit, and compares the phase shift to a threshold.

Furthermore, although Menich's "receiver hardware [is] employed to demodulate the transmitted narrowband signal and determine a signal quality value or signal strength indication (SSI) of the signal," col. 5, ll. 20-23, the examiner shows no evidence to support his allegation that "determining a quality value . . . reads on [determining a] phase shift. . . ."

(Final Rejection at 3.)

Because there is no showing that Tarallo or Menich determines a phase shift by measuring a time between base station's transmission of a signal and the base station's reception of a corresponding signal from a remote unit and compares the determined phase shift to a threshold, we are not persuaded that the teachings from the applied prior art would have suggested the limitations of "measuring a time between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit to produce a measured phase shift; comparing the measured phase shift to a threshold

to produce a comparison;" "measuring a time, between a base station's transmitted signal and a corresponding received signal transmitted from a remote unit to produce a measured phase shift; comparing the phase shift to a threshold to produce a comparison;" "measuring a plurality of times between the plurality of base station's transmitted signals and corresponding received signals transmitted from a remote unit to produce a plurality of phase shift measurements; . . . comparing the plurality of phase shift measurements to a plurality of thresholds to produce a comparison" or "means for measuring an uncorrected phase shift of a remote unit to produce a measured phase shift, wherein the uncorrected phase shift is based on a time between a base station's transmitted signal and a corresponding signal received at the base station; means, coupled to means for measuring, for comparing the measured phase shift to a threshold to produce a comparison. . . ." Therefore, we reverse the rejection of rejection of independent claims 1, 11, and 14 and of claims 2-6, claims 12 and 13, and claims 15 and 16, which respectively depend from the independent claims. We also reverse the

rejection of claims 8-10, which depend from independent claim 7.

CONCLUSION

In summary, the rejection of claim 7 under § 102(b) is reversed. The rejection of claims 1-6 and 8-16 under § 103(a) is also reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOSEPH L. DIXON)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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